


1241219 - R8 SDMS

Third West Weekly Report

Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)'

07/06/2012 09:11 AM

Hide Details

From: "Shepherd, Michael" <Michael.Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)'"
<cbarnitz@utah.gov>

7 Attachments



Weekly Reports 06-25 to 06-29-12.pdf Third West Weekly Log 2012-26.pdf 238936-1.pdf 239030-1.pdf 239099-1.pdf



239101-1.pdf 239253-1.pdf

Joyce & Craig,

Attached are the reports for the week of June 25, 2012.

All air monitoring results came back negative, except for a chrysotile hit on Wednesday last week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 06/25/12

General

NA Work area Health and Safety Inspection

NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day

☒ Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP

NA Site hazard and safety instruction for all first time employees, contractors or visitors

NA Complete Employee Meeting Record Form B (where applicable)

NA Document required Respirator Training completion with Form H

NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.

NA Confirm return of waste material manifest documents for each load with site manager.

NA Complete all CSHASP Forms (for applicable activities planned for that day)

NA Illness/Injury Report Form A

NA Site-Specific Training Record Form C

NA Hot Work Permit Form D

NA Trench/Evacuation Permit Form E

NA Combined Space Entry Permit Form F

Exclusion zone operations are practiced as instructed.

NA Decontamination unit is working properly.

NA Workers are using decontamination unit as instructed.

NA Workers use personal protective equipment properly.

☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.

☒ Review sign-in/sign-out log throughout and at the end of the workday.

☒ Secure the site at the end of the workday

Sampling

NA Soil Confirmation sampling for any newly excavated areas

NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone

NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal

NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - ☒ On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 06/25/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

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1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

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1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

<i>Standard</i>	<i>Title</i>	In Compliance	Out of Compliance	N/A	<i>Corrective Action Taken and Date</i>
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1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE line crew worked on buss and service transformer between bay 2 and switch gear.

CVE electricians on site to work on control cable to the service line.

Newman not on site today.

Weather was hot and dry with afternoon winds and temperatures around 90.

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1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
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Comments:

CVE line crew excavated for grounding. While water was applied while digging, these trenches did not uncover native material.

CVE fabricators on site to work on forming porches for control building and switch gear. They also helped with placement of cable trench to 46 kV yard.

CVE electricians continued working on control cable and lighting.

STR was on site but could not proceed with work on transformers due to lack of parts.

Weather was warm, dry and sunny with afternoon winds and temperatures in the mid 80's.

3RD WEST SUBSTATION REMEDIATION PROJECT

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Comments:

CVE line crew continued excavations for grounding and did not uncover native material out to the north west gate. They began installing grounding cable.

CVE fabricators continued with forming for porches.

CVE electricians continued working on controls and punch list items.

Weather was hot and dry with moderate winds and temperatures in the low 90's.

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DAILY CHECKLIST

DATE: 06/28/12

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NA Work area Health and Safety Inspection

NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day

☒ Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP

NA Site hazard and safety instruction for all first time employees, contractors or visitors

NA Complete Employee Meeting Record Form B (where applicable)

NA Document required Respirator Training completion with Form H

NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.

NA Confirm return of waste material manifest documents for each load with site manager.

NA Complete all CSHASP Forms (for applicable activities planned for that day)

NA Illness/Injury Report Form A

NA Site-Specific Training Record Form C

NA Hot Work Permit Form D

NA Trench/Evacuation Permit Form E

NA Combined Space Entry Permit Form F

Exclusion zone operations are practiced as instructed.

NA Decontamination unit is working properly.

NA Workers are using decontamination unit as instructed.

NA Workers use personal protective equipment properly.

☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.

☒ Review sign-in/sign-out log throughout and at the end of the workday.

☒ Secure the site at the end of the workday

Sampling

NA Soil Confirmation sampling for any newly excavated areas

NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone

NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal

NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - ☒ On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 06/28/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE line crew continued finished setting grounding cables and buried most of the trenches. They dug small holes in the UTA yard and found native, potentially contaminated material just under the yard rock. They also continued working on capacitor bank assembly.

CVE fabricators poured porches at control building and switch gear.

CVE electricians onsite to work on control connections.

Weather was hot and dry with afternoon winds and temperatures in the high 90's.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 06/29/12

General

- NA Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- ☒ Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
- NA Illness/Injury Report Form A
- NA Site-Specific Training Record Form C
- NA Hot Work Permit Form D
- NA Trench/Evacuation Permit Form E
- NA Combined Space Entry Permit Form F
- Exclusion zone operations are practiced as instructed.
- NA Decontamination unit is working properly.
- NA Workers are using decontamination unit as instructed.
- NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - ☒ On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 06/29/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

<i>Standard</i>	<i>Title</i>	In Compliance	Out of Compliance	N/A	<i>Corrective Action Taken and Date</i>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE line crew on site to provide electrically qualified person. He worked on service transformer at bay 2.

CVE fabricators pulled forms from porches at control building and switch gear.

RMP relay technicians on site doing work in switch gear. They stayed on site after other contractors left for the day.

Weather was hot, sunny and calm with mid day temperatures near 90.

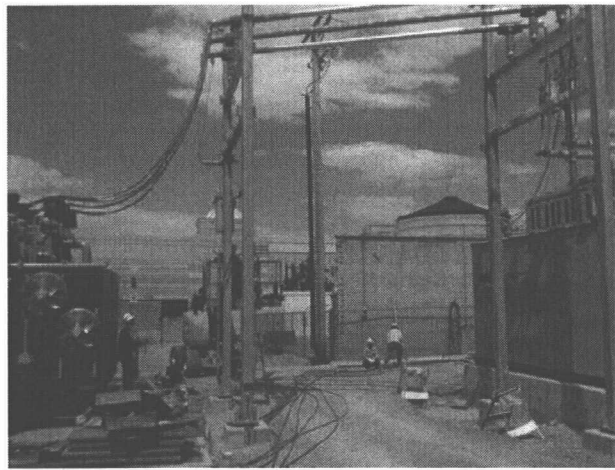


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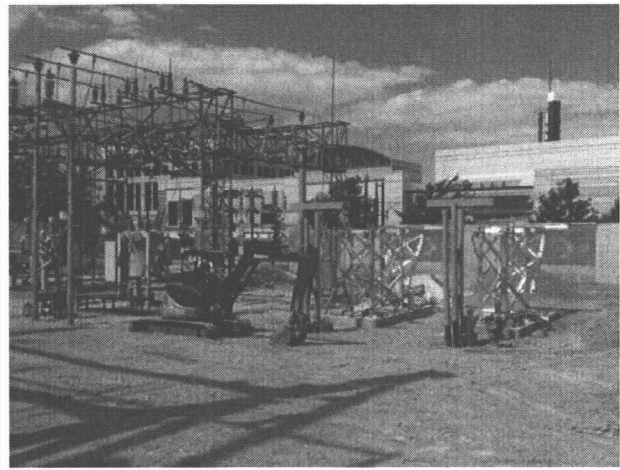


PHOTO 2

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
06/25/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1



PHOTO 2

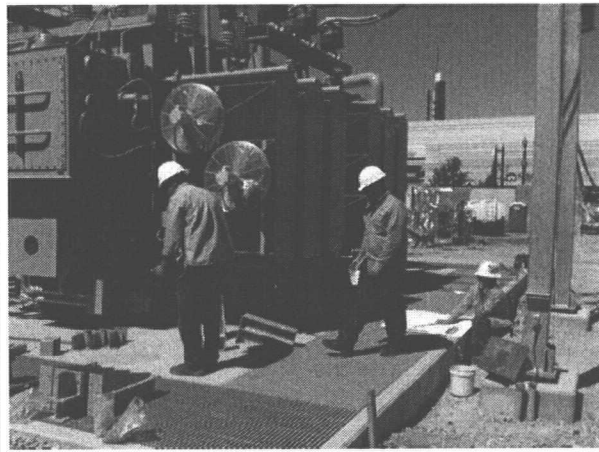


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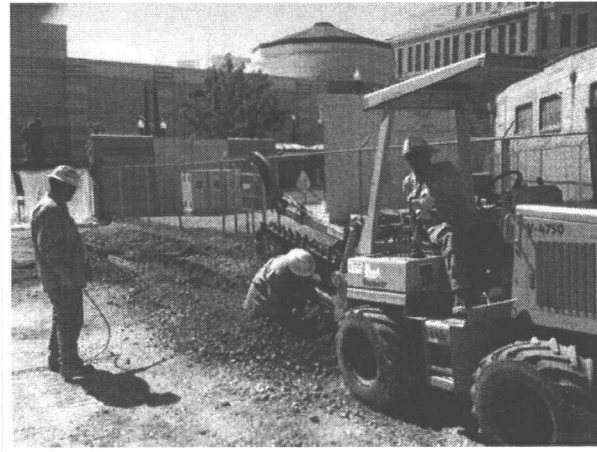


PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
06/26/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

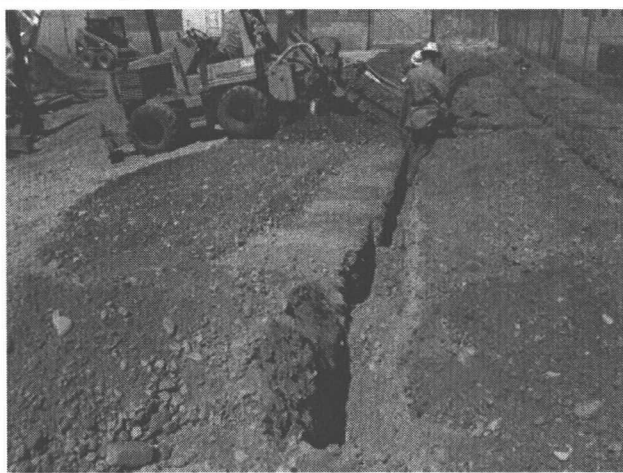


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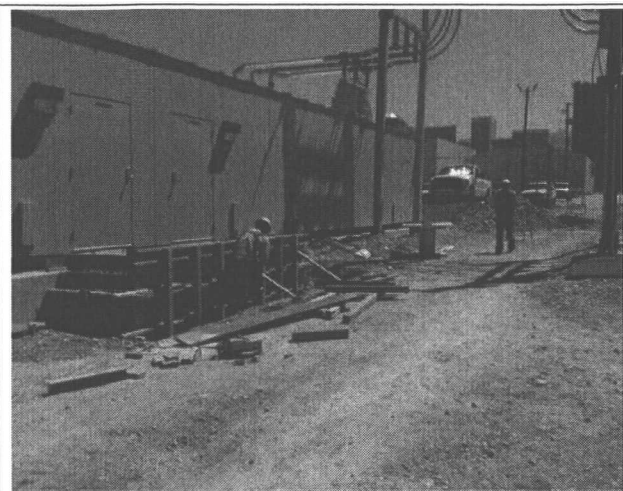


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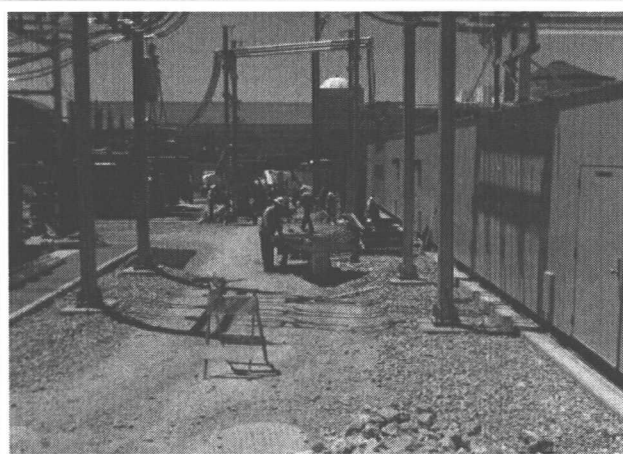


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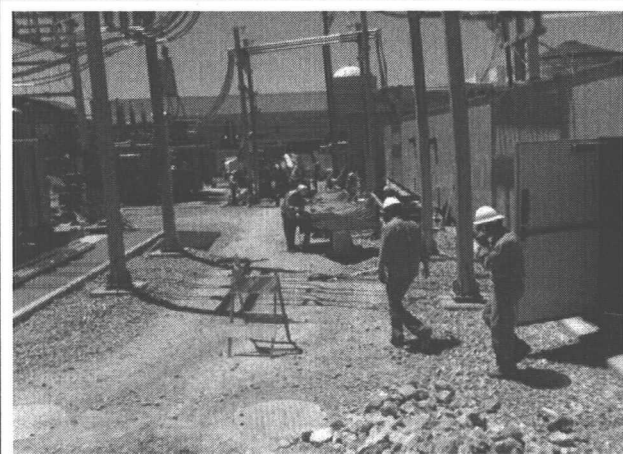


PHOTO 4

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47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
06/27/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

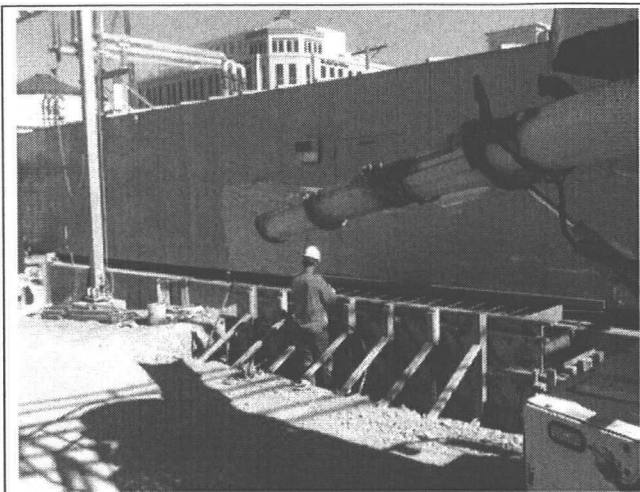


PHOTO 1



PHOTO 2

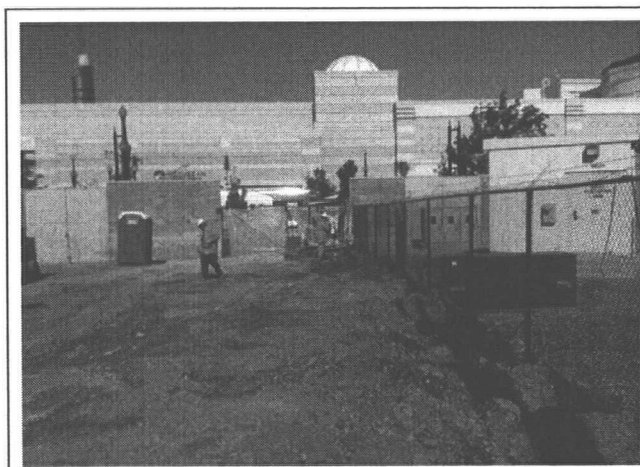


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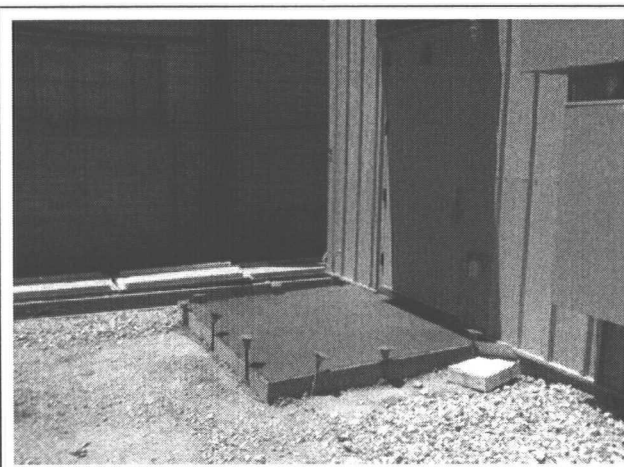


PHOTO 4

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(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

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DATE
06/28/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

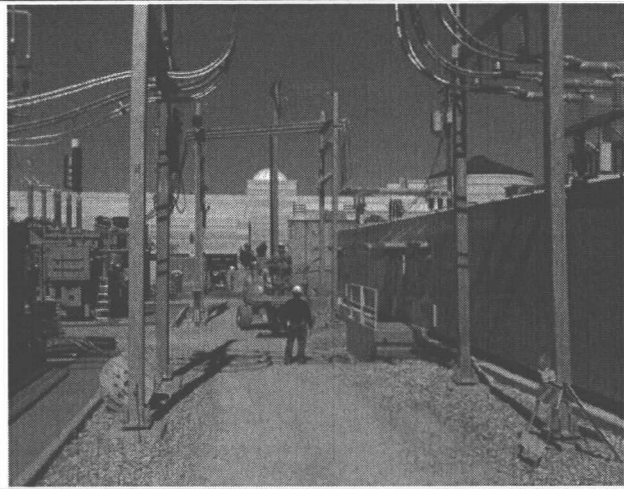


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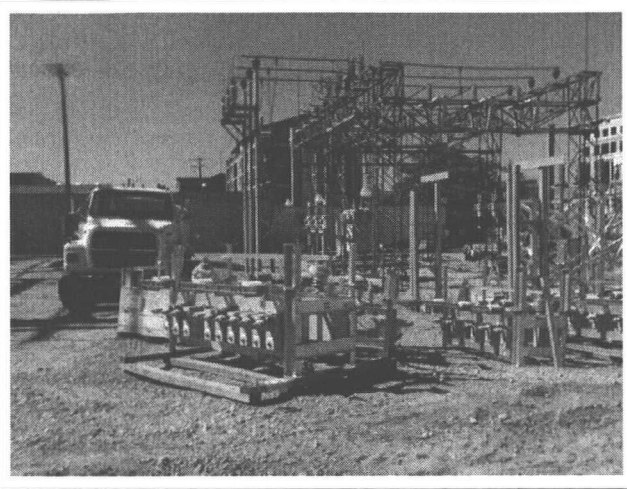


PHOTO 2



PHOTO 3

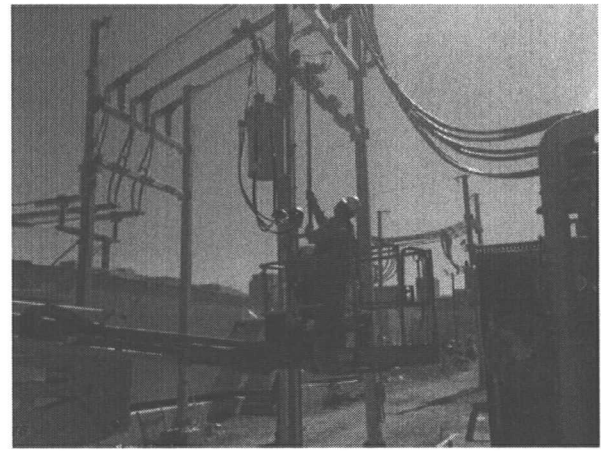


PHOTO 4

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PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
06/29/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Monday, June 25, 2012

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:15

Tot Hrs mns: 10:20

FCR Start Time: 6:43

FCR Stop Time: 17:22

Tot Hrs mns: 10:39

Use military time format 00:00

WEATHER CONDITIONS:

Sunny - 74 degrees in AM, 100 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE Line Crew worked on bird guard, pierced 151A and 151G switches for the Jordan line, assisted the electricians with pulling in the station service cables, and hauled CVE material to their shop. CVE Fab Crew not on site today. CVE Electrician Crew pulled cables for yard lighting and station service, also control cable to CBs 46 and 47. Newman is not on site today. Wilding test the southeast roadway which passed for compaction but not for moisture. CVE Line Crew = 3, CVE Fab Crew = 0, CVE Electrical Crew = 3, Newman = 0, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Jim Bowman 0643

Dispatcher logout, name and time: Al Swinski 1722

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

Existing conduits from cable trench to CB 46 and CB 47 are only 2". 3" is required. Also, need new 3" sealtight running from i-tox to CB for both.

Discussed with Roger and copied Mike Shepherd.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Tuesday, June 26, 2012

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:15

Tot Hrs mns: 10:20

FCR Start Time: 6:39

FCR Stop Time: 17:25

Tot Hrs mns: 10:46

Use *military time* format 00:00

WEATHER CONDITIONS:

Sunny - 78 degrees in AM, 91 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE Line Crew installed grounds on the switchgear buswork to Xfmr. #2 and installed grounding in the west and north 46 kV yard. CVE Fab Crew mobed to the site and started tying rebar and forms for the center switchgear porch and the north porch of the control building. They also worked on the cable trench from the new truck crossing that ties into the existing cable trench in the 46 kV yard and uncovered the manholes for vaults #7 and #8 to provide access for the RMP UG crew. CVE Electrician Crew pulled cables for yard lighting and removed the temporary station service cables. Newman is not on site today. Wilding was on site for a while witnessing tying of rebar and form placement. STR arrived at site around 9:00 and un-crated the materials sent by Hyundai. Dragos recognized that the shipment did not include any of the assembly bolts or U-bolts required to put the seismic bracing together. STR left the site around 3:30 after realizing that the necessary materials had not been shipped and wouldn't be available for a few days. CVE Une Crew = 6, CVE Fab Crew = 5, CVE Electrical Crew = 3, Newman = 0, STR = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Bob Gentry 0639

Dispatcher logout, name and time: Al Swinski 1720

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Wednesday, June 27, 2012

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:50

Tot Hrs mns: 10:55

FCR Start Time: 6:41

FCR Stop Time: 17:55

Tot Hrs mns: 11:14

Use military time format 00:00

WEATHER CONDITIONS:

Sunny - 58 degrees in AM, 88 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Confirmed with Roger Fuerst that the two runs of grounding, including the N-S ties, on both the north and south sides of the UTA common fence are part of the grounding change order. CVE Line Crew installed grounding in the north 46 kV yard (CO). CVE Fab Crew tied rebar and set forms for the center and west porches on the switchgear and both porches for the control building. CVE Electrician Crew landed cables for yard lighting and installed the final yard light on the east column of the structure on the north side of Xfmr #2. Newman is not on site today. CVE Line Crew = 3, CVE Fab Crew = 5, CVE Electrical Crew = 3, Newman = 0, R&R = 1, Wlding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Bob Gentry 0641

Dispatcher logout, name and time: Al Swinski 1756

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, Idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Thursday, June 28, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:00

Tot Hrs mns: 10:05

FCR Start Time: 6:46

FCR Stop Time: 17:10

Tot Hrs mns: 10:24

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 71 degrees in AM, degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE Line Crew installed backfilled grounding in the north 46 kV yard (CO) and set up to set capacitor bank racks on the structures, but crew was called out on an fire emergency in Southern Utah. CVE Fab Crew completed forming up the porches and poured 18 cyds at 9:30, including the west and middle porches on the switchgear and the two porches on the control building. They finished the steps, cleaned up the area and left the site around 2:30. CVE Electrician Crew pulled the last of the control cables for the 46 kv breakers into the breaker cabinets and completed some wiring in the yard light junction boxes. Newman is not on site today. CVE Line Crew = 6, CVE Fab Crew = 5, CVE Electrical Crew = 3, Newman = 0, R&R = 1, Welding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Bob Gentry - 0646

Dispatcher logout, name and time:

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

--	--	--

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Friday, June 29, 2012

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 11:15

Tot Hrs mns: 4:20

FCR Start Time: 6:36

FCR Stop Time: 12:12

Tot Hrs mns: 5:36

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 73 degrees in AM, 86 degrees at 11:30

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. RMP energized Xfmr # 2 at about 9:30. CVE Line Crew installed jumpers to the station service transformer for Xfmr #2 and then had to swap the jumpers to match phasing up with the SS on Xfmr # 1. CVE Fab Crew stripped forms from the four porches, installed canopies on the switchgear (except for the east porch which hasn't been poured, and cleaned up the yard. They mobbed to Ft. Douglas around 10:00. CVE Electrician Crew is not on site today. Newman is not on site today. CVE Line Crew = 1, CVE Fab Crew = 5, CVE Electrical Crew = 0, Newman = 0, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Bob Gentry - 0646

Dispatcher logout, name and time: Bob Gentry - 1212

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

--	--	--

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative



June 28, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 238936-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 238936-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jeanne Spencer", is written over a horizontal line.

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 238936-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 27, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: June 28, 2012

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W-082512 E	EM 888960	NA	947	NA		Rejected due to Blown Filter	
3W-062512 N	EM 888961	0.0900	947	ND	0.0045	BAS	BAS
3W-062512 W	EM 888962	0.0900	947	ND	0.0045	BAS	BAS
3W-062512 S	EM 888963	NA	947	NA		Rejected due to Blown Filter	

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

Digitally signed
by Eladio
Garcia
DN: cn = Eladio
Garcia, c =
US, o =
Reservoirs
Environmental,
Inc., ou =
Data
Date: 2012.08.28
15:12:45 -0500

DATA QA

Due Date: 6-27-12
Due Time: 2400



Reservoirs Environmental, Inc.

6501 Logan St. Denver, CO 80216 • Ph: 303 864-1986 • Fax 303 477-4276 • Toll Free: 866 RES-ENV

Pager: 303-809-8098

RES 238936

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: RER Environmental	Company:	Contact: Dave Roskelley	Contact:
Address: 47 W 9800 S #2	Address:	Phone:	Phone:
Sandy Ut. 84070		Fax:	Fax:
		Cell/pager: 801 541-0335	Cell/pager:
Project Number and/or P.O. #:	Final Date Deliverable Email Address: dave@reenviro.com		
Project Description/Location: 3rd West Sub - RMP			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm	REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:										
PLM / PCM (TEM) <input type="checkbox"/> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush PCM = 2lir, TEM = Bhr.)											Alr = A	Bulk = B											
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm											Dust = D	Paint = P											
Metal(s) / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day											Soil = S	Wipe = W											
RCRA 8 / Metals & Welding <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day											Swab = SW	F = Food											
Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day											Drinking Water = DW	Waste Water = WW											
Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day											O = Other												
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm											**ASTM E1792 approved wipe media only**												
E.coli O157:H7, Coliforms, S.aureus <input type="checkbox"/> 24 hr. <input type="checkbox"/> 2 Day <input type="checkbox"/> 3-5 Day																							
Salmonella, Listeria, E.coli, APC, Y & M <input type="checkbox"/> 48 Hr. <input type="checkbox"/> 3-5 Day																							
Mold <input type="checkbox"/> RUSH <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day																							
Turnaround times establish a laboratory priority; subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																							
Special Instructions:	PLM - Short report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
Client sample ID number (Sample ID's must be unique)																							
1 3W-062512 E		X																947 A		6/25/12			888960
2 3W-062512 N																		947					1
3 3W-062512 W																		947					2
4 3W-062512 S																		947					3
5																							
6																							
7																							
8																							
9																							
10																							

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [Signature]	Date/Time: 6/25/12	Sample Condition: On Ice	Sealed	Intact						
Laboratory Use Only		Temp. (F°) _____	Yes / No	Yes / No						
Received By: [Signature]	Date/Time: 6-27-12	Carrier: FedEx	Yes / No	Yes / No						
Results:	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

7485 4784 4996

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

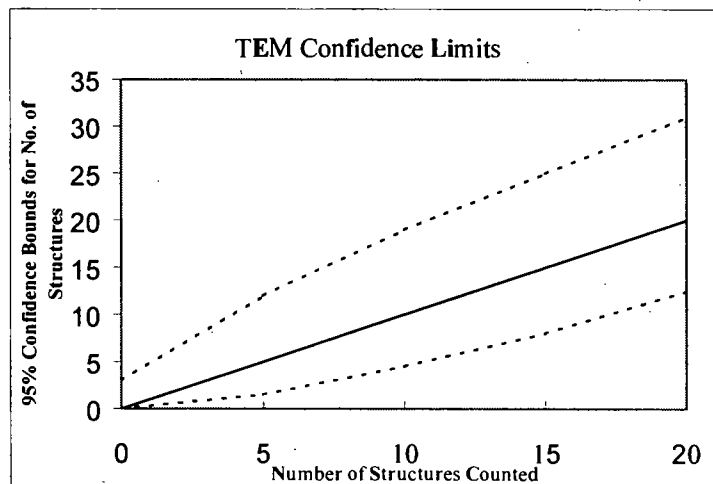
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
GA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	747
Date received by lab	6/27/12
Lab Job Number:	238936
Lab Sample Number:	888960

Analyzed by	JB
Analysis date	6/28/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	947
Date received by lab	6/27/12
Lab Job Number:	238936
Lab Sample Number:	888961

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	6/28/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-1	ND					Prep A	70% on hmt		5% debris				
	H4-1	ND					Prep B	90% on hmt		5% debris				
	G4-1	ND												
	F4-1	ND												
	E4-1	ND												
B	H3-1	ND												
	G3-1	ND												
	F3-1	ND												
	E3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	947
Date received by lab	6/29/12
Lab Job Number:	238936
Lab Sample Number:	888962

Analyzed by	JB
Analysis date	6/28/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	64-4	ND												
	F4-4	ND					Pap A	70% in hand		5% debris				
	E4-4	ND					Pap B	60% in hand		5% debris				
	C4-4	ND												
	E4-6	ND												
B	L4-3	ND												
	K4-3	ND												
	H4-3	ND												
	G4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N <u>S</u>
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.05S um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	947
Date received by lab	6/27/12
Lab Job Number:	238936
Lab Sample Number:	888963

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	6/28/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

- Fiber:** is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
- Bundle:** is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
- Cluster:** is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
- Matrix:** is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



Reservoirs Environmental, Inc.

June 29, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239030-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 239030-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.
NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 239030-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 28, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: June 29, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-062612 E	EM 889256	0.1000	641	ND	0.0060	BAS	BAS
3W-062612 N	EM 889257	0.0800	963	ND	0.0050	BAS	BAS
3W-062612 W	EM 889258	0.0800	966	ND	0.0050	BAS	BAS
3W-062612 S	EM 889259	0.0800	966	ND	0.0050	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

AC
Digitally signed by Elsie
Elmer
DN: CN = Elsie
Elmer, C = US, O =
Reservoirs
Environmental, Inc.
Date: 2012.06.29
15:42:22 -0800

DATA QA

Due Date: 6-29-12Due Time: 2pm

Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 884-1088 • Fax 303-477-4279 • Toll Free: 866-RESI-ENV

Pager: 303-509-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>REIL Environmental</u>	Company:	Contact: <u>Dave Roskeiley</u>	Contact:
Address: <u>47 W 9800S #12</u>	Address:	Phone:	Phone:
<u>Sandy Ut. 84030</u>		Fax:	Fax:
		Cell/pager: <u>303 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Date Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RALP</u>		<u>dave@retilab.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:							
PLM / PCM (TEM) <u> </u> RUSH (Same Day) <u>X</u> PRIORITY (Next Day) <u> </u> STANDARD (Rush PCM = 2hr, TEM = 6hr.)		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Props	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms +/- or Quantification	S aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Air = A	Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Dust = O	Paint = P	
Metal(s) / Dust <u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day																			Soil = S	Wipe = W	
RCRA S / Metals & Welding <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day																			Swab = SW	F = Food	
Fume Scan / TCLP <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day																			Drinking Water = DW	Waste Water = WW	
Organics <u> </u> 24 hr. <u> </u> 3 day <u> </u> 5 Day		O = Other																			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm		**ASTM E1792 approved wipe media only**																			
E.coli O157:H7, Coliforms, S.aureus <u> </u> 24 hr. <u> </u> 2 Day <u> </u> 3-5 Day																					
Salmonella, Listeria, E.coli, APC, Y & M <u> </u> 48 Hr. <u> </u> 3-5 Day																					
Mold <u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day																					
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																					
Special Instructions:																					
Client sample ID number (Sample ID's must be unique)																					
1 <u>3W-062612E</u>																		641 A	6/26/12	885256	
2 <u>3W-062612N</u>																		963		57	
3 <u>3W-062612W</u>																		966		58	
4 <u>3W-062612S</u>																		966		59	
5																					
6																					
7																					
8																					
9																					
10																					

Number of samples received: 4

(Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for atxys or omissions in calculations resulting from the inaccuracy of original data. By signing this company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest charge.

Relinquished By: <u>Justin Kargin</u>	Date/Time: <u>6/27/12</u>	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only		Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>6/27/12</u>	Carrier: <u>FedEx</u>			
Results:	Contact	Phone Email Fax	Date	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials

Handwritten: Handwritten: 7937 7293 8334

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

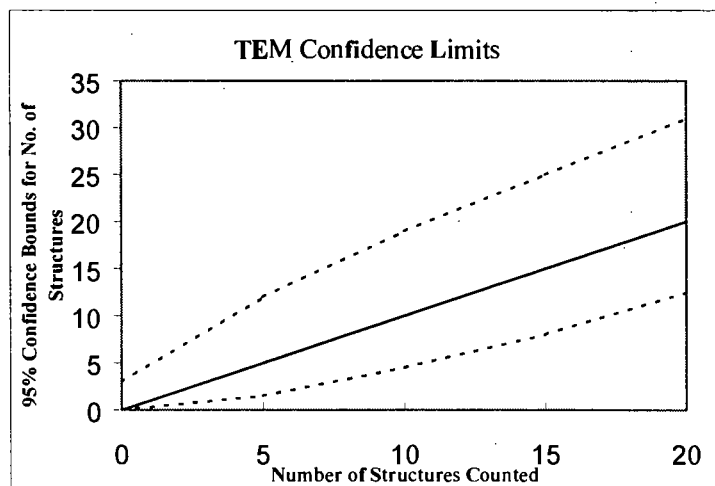
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	641
Date received by lab	6/29/12
Lab Job Number:	239030
Lab Sample Number:	889256

Analyzed by	AH
Analysis date	6/29/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	65-3	MD												
	FS-3	MD												
	ES-3	MD												
	C4-6	MD												
	B4-6	MD												
B	H3-6	MD												
	G3-6	MD												
	F3-6	MD												
	B4-6	MD												
	A4-6	MD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	200X 100X
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	963
Date received by lab	6/29/12
Lab Job Number:	239030
Lab Sample Number:	889257

Analyzed by	AH
Analysis date	6/29/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E6-4	ND												
	C6-4	ND												
	B6-4	ND												
	A6-4	ND												
B	H3-4	ND												
	G3-4	ND												
	F3-4	ND												
	E3-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20K 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	966
Date received by lab	6/29/12
Lab Job Number:	239030
Lab Sample Number:	889258

Analyzed by	AH
Analysis date	6/29/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volumes (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-4	ND												
	G5-4	ND												
	F5-4	ND												
	E5-4	ND												
B	H5-6	ND												
	G5-6	ND												
	F5-6	ND												
	E5-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	200X 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	966
Date received by lab	6/29/12
Lab Job Number:	239030
Lab Sample Number:	889259

Analyzed by	AH
Analysis date	6/29/12
Method (D=Direct, i=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H6-1	ND												
	G6-1	ND												
	F6-1	ND												
	E6-1	ND												
B	G4-3	ND												
	F4-3	ND												
	E4-3	ND												
	G4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

$$\text{GO} = \text{TEM grid opening}$$



July 2, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239099-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 239099-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Jeanne Spencer'.

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 239099-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 29, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: July 2, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-062712 E	EM 889485	0.0900	938	ND	0.0046	BAS	BAS
3W-062712 N	EM 889486	0.0900	936	ND	0.0046	BAS	BAS
3W-062712 W	EM 889487	0.0900	936	ND	0.0046	BAS	BAS
3W-062712 S	EM 889488	0.0900	934	1	0.0046	0.0046	11.1

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

g
Digital
Signed By
Date
2012.07.02
12:29:26
0000

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0215

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 239099-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 29, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: July 2, 2012

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W-062712 E	EM 889485	ND	0	0	0	0	0	0	0
3W-062712 N	EM 889486	ND	0	0	0	0	0	0	0
3W-062712 W	EM 889487	ND	0	0	0	0	0	0	0
3W-062712 S	EM 889488	Chrysotile	1	0	0	0	0	0	1

*See Analytical Procedure for definitions

**C = Excluded from total due to lack of confirmation

**L = Excluded from total for length less than 0.5 micron (AHERA only)

**A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Due Date: 6-30-12
Due Time: 830a

REI LAB **Reservoirs Environmental, Inc.**
8601 Urgan St. Denver, CO 80216 • Ph: 303-984-1986 • Fax 303-477-4275 • Toll Free: 866-RES-ENV
Pager: 303-808-2093

RES 239099

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>RER Environmental</u>	Company:	Contact: <u>Dave Costello</u>	Contact: <u>Justin</u>
Address: <u>47 W 9090S #2</u>	Address:	Phone:	Phone:
<u>Sandy UT - 84070</u>		Fax:	Fax: <u>801 828 5219</u>
		Cell/pager:	
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RMP</u>		<u>dave@rrenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES		LAB NOTES:				
PLM / PCM / TEM	<u>RUSH (Same Day)</u> <u>X</u> PRIORITY (Next Day) <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO +/-, Quant, Semi-quant, Micro-rec, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	Air = A	Bulk = B	EM Number (Laboratory Use Only)
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																		Dust = D	Paint = P	
Metal(s) / Oust	<u>RUSH</u> 24 hr. 3-5 Day																	Soil = S	Wipe = W	
RCRA 8 / Metals & Welding	<u>RUSH</u> 5 day 10 day																	Swab = SW	F = Food	
Fume Scan / TCLP																		Drinking Water = DW	Waste Water = WW	
Organics	24 hr. 3 day 5 Day	O = Other				**ASTM E1782 approved wipe media only**														
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm														Sample Volume mL / Acre	Matrix Code	# Containers	Date Collected mm/dd/yyyy	Time Collected h:mm a/p		
E.coli O157:H7, Coliforms, S.aureus	24 hr. 2 Day 3-5 Day																			
Salmonella, Listeria, E.coli, APC, Y & M	48 Hr. 3-5 Day																			
Mold	<u>RUSH</u> 24 Hr 48 Hr 3 Day 5 Day																			
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																				
Special Instructions:																				
Client sample ID number (Sample ID's must be unique)																				
1	<u>3W-062712 E</u>																			<u>889485</u>
2	<u>3W-062712 N</u>																			<u>86</u>
3	<u>3W-062712 W</u>																			<u>87</u>
4	<u>3W-062712 S</u>																			<u>88</u>
5																				
6																				
7																				
8																				
9																				
10																				

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>6/28/12</u>	Sample Condition: On Ice Sealed <u>Intact</u>
Laboratory Use Only	Temp. (F°) <u>53</u>	Yes / No Yes / No Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>6-29-12</u>	Carrier: <u>FedEx</u>
Results:	Contact Phone Email Fax Date Time Initials	Contact Phone Email Fax Date Time Initials
	Contact Phone Email Fax Date Time Initials	Contact Phone Email Fax Date Time Initials

7212 2200 1770

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

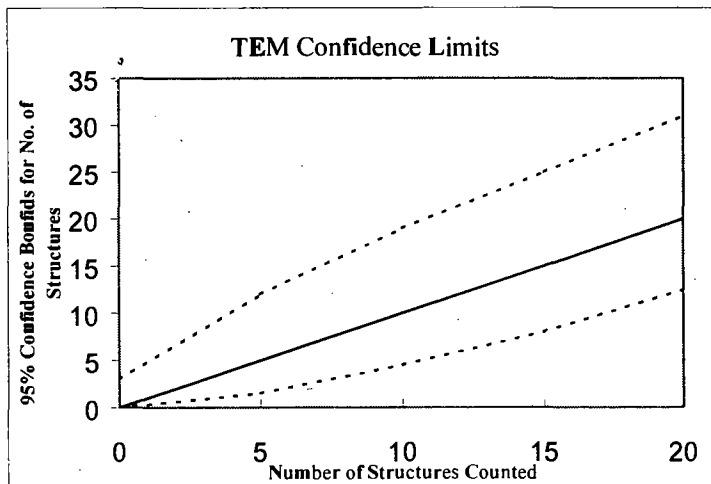
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Page 1 of _____

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	938
Date received by lab	6/24/12
Lab Job Number:	239099
Lab Sample Number:	88948

Analyzed by	AH
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-4	ND												
	G5-4	ND												
	F5-4	ND												
	E5-4	ND												
	C5-4	ND												
B	G3-6	ND												
	F3-6	ND												
	E3-6	ND												
	C3-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NIS
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.066 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	936
Date received by lab	6/29/12
Lab Job Number:	239099
Lab Sample Number:	88948

Analyzed by	AH
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	FS-4	ND												
	ES-4	ND												
	CS-4	ND												
	BS-4	ND												
	AS-4	ND												
B	L4-1	ND												
	K4-1	ND												
	H4-1	ND												
	G36	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	936
Date received by lab	6/24/12
Lab Job Number:	239099
Lab Sample Number:	88948

Analyzed by	AH
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grkl storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-4	ND												
	G3-4	ND												
	F3-4	ND												
	E3-4	ND												
	C3-4	ND												
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	C3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	934
Date received by lab	6/29/12
Lab Job Number	239099
Lab Sample Number:	88948

Analyzed by	AH
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	HS-1	ND												
	65-1	ND			Prep A: 80% intact					5-7 % debris				
	ES-1	F		1	2	1	CD		✓		—			
	ES-1	ND			Prep B ~ Prep A									
	CS-1	ND												
B	E3-3	ND												
	C3-3	ND												
	B3-3	ND												
	B3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

- Fiber:** is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
- Bundle:** is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
- Cluster:** is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
- Matrix:** is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

$$\text{GO} = \text{TEM grid opening}$$



Reservoirs Environmental, Inc.

June 30, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239101-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 239101-1 Is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 239101-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 29, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: June 30, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-062812 E	EM 889497	0.0900	923	ND	0.0046	BAS	BAS
3W-062812 N	EM 889498	ND	923	NA	Sample can not be Prepared		
3W-062812 W	EM 889499	0.0900	923	ND	0.0046	BAS	BAS
3W-062812 S	EM 889500	0.0900	923	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

AC
Reservoirs Environmental, Inc.
100 Logan Street, Suite 100
Denver, CO 80216
303-964-1966
www.reslab.com

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 239101-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: June 29, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: June 30, 2012

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W-062812 E	EM 889497	ND	0	0	0	0	0	0	0
3W-062812 N	EM 889498	NA							
3W-062812 W	EM 889499	ND	0	0	0	0	0	0	0
3W-062812 S	EM 889500	ND	0	0	0	0	0	0	0

*See Analytical Procedure for definitions

**C = Excluded from total due to lack of confirmation

**L = Excluded from total for length less than 0.5 micron (AHERA only)

**A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Due Date: 6-30-12
Due Time: 830a



Reservoirs Environmental, Inc.

9901 Logan St. Denver, CO 80316 • Ph: 303 884-1385 • Fax 303-477-4275 • Toll Free: 888-RES-ENV
Pager: 303-608-3088

RES 239101

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R&E Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000S 112</u>	Address:	Phone:	Phone:
<u>Sandy, UT 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RMP</u>		<u>dave@reservoirs.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES				LAB NOTES:			
PLM / PCM <input checked="" type="checkbox"/> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush PCM = 2hr, TEH = 8hr.)		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TOLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/- Identification, Quantification	Air = A		Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																		Dust = D		Paint = P	
Metal(s) / Dust RUSH 24 hr. 3-5 Day																		Soil = S		Wipe = W	
RCRA 8 / Metals & Welding Fume Scan / TCLP RUSH 5 day 10 day																		Swab = SW		F = Food	
Organics 24 hr. 3 day 5 Day																		Drinking Water = DW		Waste Water = WW	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm														O = Other							
E.coli O157:H7, Coliforms, S.aureus 24 hr. 2 Day 3-5 Day														**ASTM E1782 approved wipe media only**							
Salmonella, Listeria, E.coli, APC, Y & M 48 Hr. 3-3 Day														Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected h:mm a/p	EM Number (Laboratory Use Only)		
Mold RUSH 24 Hr 48 Hr 3 Day 5 Day																					
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																					
Special Instructions:																					
Client sample ID number (Sample ID's must be unique)																					
1	3W-062812 E																	923	A	6/28/12	889497
2	3W-062812 N																	923			58
3	3W-062812 W																	923			99
4	3W-062812 S																	923			500
5																					
6																					
7																					
8																					
9																					
10																					

Number of samples received: (4) (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of this following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Fed Ex	Date/Time: <u>6/28/12</u>	Sample Condition: On Ice	Sealed	Intact
Laboratory Use Only			Temp. (F°) _____	Yes / No	Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>6-29-12</u>	Carrier: <u>Fed Ex</u>			
Results:	Contact	Phone Email Fax	Date	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials

7937 2254 8308

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

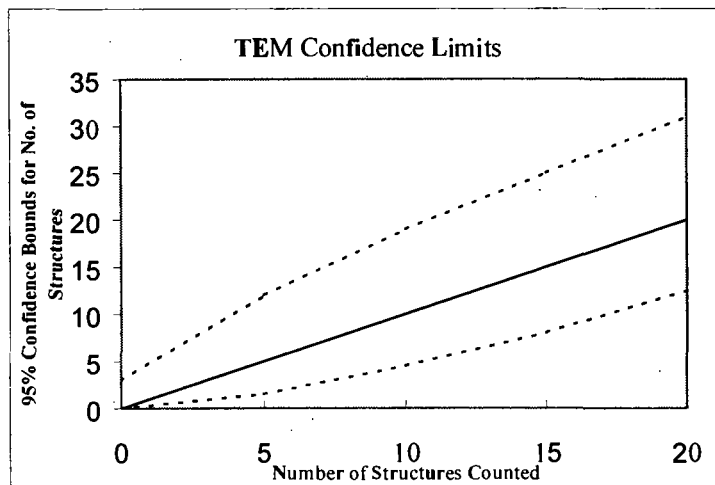
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NTS
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	923
Date received by lab	6/29/12
Lab Job Number:	239101
Lab Sample Number:	589497

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (m)	

Analyzed by	JB
Analysis date	6/30/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amp/Nbole	C	NAM		Sketch	Photo	EDS
A	G5-6	ND												
	F5-6	ND					Pmp 2A	70% in dust		10% debris				
	E5-6	ND					Pmp B	80% in dust		10% debris				
	C5-6	ND												
	B5-6	ND												
B	G3-4	ND												
	F3-4	ND												
	E3-4	ND												
	C3-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:Worthy heel in TEM Bench at east doc

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N ⑤
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 10 =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	923
Date received by lab	6/29/12
Lab Job Number:	239101
Lab Sample Number:	889 499

Analyzed by	JB
Analysis date	6/30/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibola	C	NAM		Sketch	Photo	EDS
A	K5-3	ND					Prep A 60% in hnt Prep B 80% in hnt				5-10% debris 5-10% debris 6/30/12			
	H5-3	ND												
	G5-3	ND												
	F5-3	ND												
	E5-3	ND												
B	H4-4	ND												
	G4-4	ND												
	F4-4	ND												
	E4-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reserrols Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N ^②
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	386
Secondary Filter Area (mm ²)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	923
Date received by lab	6/29/12
Lab Job Number:	239101
Lab Sample Number:	889500

Analyzed by	JB
Analysis date	6/30/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-4	MD												
	G4-4	MD												
	F4-4	MD												
	C4-4	MD												
	C4-4	MD												
B	E4-6	MD												
	C4-6	MD												
	B4-6	MD												
	A4-6	MD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

$$\text{GO} = \text{TEM grid opening}$$



Reservoirs Environmental, Inc.

July 3, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239253-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 239253-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 239253-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Sub - RMP
Date Samples Received: July 2, 2012
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: July 2, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-062912 E	EM 890021	0.1000	388	ND	0.0099	BAS	BAS
3W-062912 N	EM 890022	0.1000	295	ND	0.0131	BAS	BAS
3W-062912 W	EM 890023	0.1000	388	ND	0.0099	BAS	BAS
3W-062912 S	EM 890024	0.1000	388	ND	0.0099	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

[Signature]
Date: 7/2/12
By: [Signature]

DATA QA

Due Date: 7-3-12
Due Time: 9



Reservoirs Environmental, Inc.

5501 Logan St. Denver, CO 80216 • Ph: 303 964-1988 • Fax 303-477-4276 • Toll Free 866-RES-ENV
Pager: 303-809-8098

RES 239253

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R & R Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000 S #2</u>	Address:	Phone:	Phone:
<u>Sandy UT 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Date Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub-RMP</u>		<u>dave@resenv.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:							
PLM / PCM / TEM	<input type="checkbox"/> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RODA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms +/- or Quantification	S.aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Alr = A	Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Dust = D	Paint = P	
Metal(s) / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day																			Soil = S	Wipe = W	
RCRA 8 / Metals & Welding <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day																			Swab = SW	F = Food	
Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day																			Drinking Water = DW	Waste Water = WW	
Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day												O = Other									
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm												**ASTM E1792 approved wipe media only**									
E.coli O157:H7, Coliforms, S.aureus <input type="checkbox"/> 24 hr. <input type="checkbox"/> 2 Day <input type="checkbox"/> 3-5 Day												Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh:mm ap	EM Number (Laboratory Use Only)				
Salmonella, Listeria, E.coli, APC, Y & M <input type="checkbox"/> 48 Hr. <input type="checkbox"/> 3-5 Day																					
Mold <input type="checkbox"/> RUSH <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day																					
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																					
Special Instructions:																					
Client sample ID number (Sample ID's must be unique)																					
1	<u>3W-062912 E</u>																				
2	<u>3W-062912 N</u>																				
3	<u>3W-062912 W</u>																				
4	<u>3W-062912 S</u>																				
5																					
6																					
7																					
8																					
9																					
10																					

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>6/29/12</u>	Sample Condition: On Ice <input type="checkbox"/> Sealed <input type="checkbox"/> Intact <input type="checkbox"/>
Laboratory Use Only		Temp. (F) <input type="checkbox"/> Yes / No <input type="checkbox"/> Yes / No <input type="checkbox"/> Yes / No <input type="checkbox"/>
Received By: <u>[Signature]</u>	Date/Time: <u>7-2-12</u>	Carrier: <u>FedEx</u>
Results:	Contact Phone Email Fax Date Time Initials	Contact Phone Email Fax Date Time Initials
	Contact Phone Email Fax Date Time Initials	Contact Phone Email Fax Date Time Initials

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

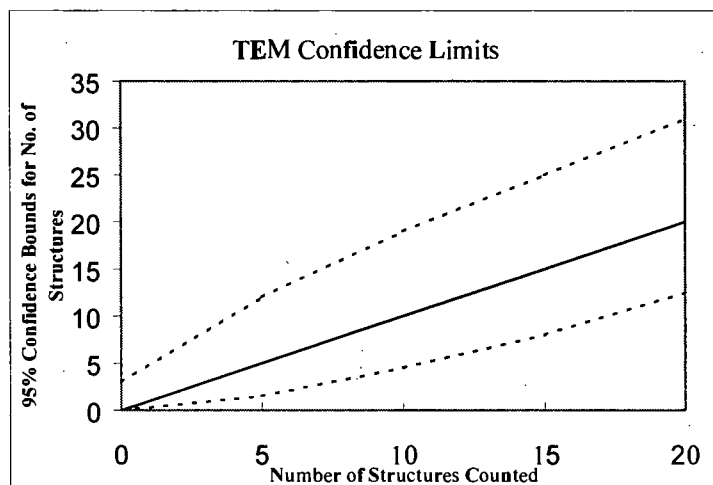
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoir Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	385
Date received by lab	7/2/12
Lab Job Number:	239253
Lab Sample Number:	890021

Analyzed by	JB
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F3-4	ND												
	E3-4	ND												
	C3-4	ND												
	B3-4	ND												
	E4-4	ND												
B	H4-6	ND												
	G4-6	ND												
	F4-6	ND												
	E4-6	ND												
	C4-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	295
Date received by lab	7/2/12
Lab Job Number	231253
Lab Sample Number:	890022

Analyzed by	JB
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-6	ND												
	G4-6	ND												
	F4-6	ND												
	E4-6	ND												
	C4-6	ND												
B	G4-1	ND												
	F4-1	ND												
	E4-1	ND												
	C4-1	ND												
	E3-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX II (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	388
Date received by lab	7/2/12
Lab Job Number:	231253
Lab Sample Number:	890023

Analyzed by	JB
Analysis date	7/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	45-1	ND												
	45-1	ND					Prep A	80% in hnf		5% debris				
	45-1	ND					Prep B	~50% in hnf		5% debris				
	45-1	ND												
	45-1	ND												
	45-1	ND												
B	F2-4	ND												
	E2-4	ND												
	E4-4	ND												
	C4-4	ND												
	E5-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	388
Date received by lab	7/2/12
Lab Job Number:	231253
Lab Sample Number:	890024

Analyzed by	JB
Analysis date	7/2/12
Method (D=Direct, I=Induct, IA=Indirect, ashed)	D
Counting rules (ISO, ANERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-6	ND												
	F3-6	ND					Pap A 80% ambient			5% debris				
	E3-6	ND					Pap B 70% ambient			5% debris				
	F4-6	ND												
	E4-6	ND												
B	H4-4	ND												
	G4-4	ND												
	F4-4	ND												
	G5-4	ND												
	F5-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening